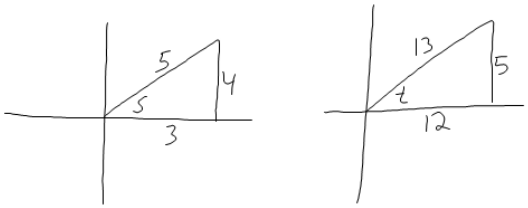
(5) $\tan(15) = \dfrac{\tan(45) - \tan(30)}{1 - \tan(45)\tan(30)} = \dfrac{\frac{3}{3} - \frac{\sqrt{3}}{3}}{1 + 1 \cdot \frac{\sqrt{3}}{3}} = \dfrac{\frac{3-\sqrt{3}}{3}}{\frac{3+\sqrt{3}}{3}}$

$\dfrac{3-\sqrt{3}}{3} \cdot \dfrac{3}{3+\sqrt{3}} = \dfrac{3-\sqrt{3}}{3+\sqrt{3}} \cdot \dfrac{3-\sqrt{3}}{3-\sqrt{3}} = \dfrac{9-6\sqrt{3}+3}{9-3} = \dfrac{12-6\sqrt{3}}{6}$

$= 2 - \sqrt{3}$

$\dfrac{12}{6} - \dfrac{6\sqrt{3}}{6}$

(41) $\cos(s) = \frac{3}{5}$ $\sin(t) = \frac{5}{13}$



$\sin(s+t) = \sin(s)\cos(t) + \cos(s)\sin(t)$

$\frac{4}{5} \cdot \frac{12}{13} + \frac{3}{5} \cdot \frac{5}{13} = \frac{48+15}{65} = \frac{63}{65}$

$\frac{48}{65} + \frac{15}{65}$

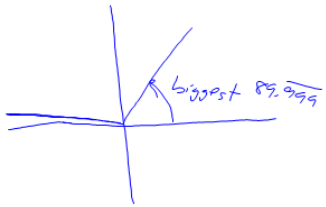
$\tan(s+t) = \frac{\tan(s)+\tan(t)}{1-\tan s \tan t}$

$\frac{\frac{4}{3}+\frac{5}{12}}{1-\frac{4}{3}\cdot\frac{5}{12}} = \frac{\frac{21}{12}}{\frac{4}{9}}$

$1 - \frac{20}{36}$

$\frac{36}{36} - \frac{20}{36} = \frac{16}{36} = \frac{4}{9}$

$\frac{21}{4} \cdot \frac{3}{4} = \frac{63}{16}$ Quad I



Sect. 5.2

#9, 26, 36, 40, 43, 45, 47, 54, 55

Class work

#47

$$\frac{\cos x + 1}{\tan^2 x} = \frac{\cos x}{\sec x - 1} \cdot \frac{\sec x + 1}{\sec x + 1}$$

$$= \frac{\cos x \sec x + \cos x}{\sec^2 x - 1}$$

$$= \frac{1 + \cos x}{\tan^2 x}$$

HW

~~Sect. 5.3 #8, 10, 12, 21, 50, 63~~

Sect. 5.4 # 11, 18, 44, 62

Quiz Tomorrow